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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,630	03/30/2004	Lelia Cosimbescu	87000AEK	3465

7590

04/21/2006

Paul A. Leipold
Patent Legal Staff
Eastman Kodak Company
343 State Street
Rochester, NY 14650-2201

EXAMINER

GARRETT, DAWN L

ART UNIT	PAPER NUMBER
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1774

DATE MAILED: 04/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/812,630

Applicant(s)

COSIMBESCU ET AL.

Examiner

Dawn Garrett

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 18-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 and 18-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Response to Amendment

1. This Office action is responsive to the amendment dated February 6, 2006. Claims 1, 15, and 27 were amended. Claim 32 was added. Claim 17 is canceled. Claims 1-16 and 18-32 are pending.
2. The objections to claims 15 and 27 set forth in the last Office action are withdrawn due to the amendment.
3. The rejection of claims 1-6, 8-12, 25-28, 30, and 31 under 35 USC 103(a) as being unpatentable over Suzuki et al. (WO 2004/020372 A1) as set forth in the last Office action (mailed November 15, 2005), paragraph 8, is withdrawn due to the amendment. A new rejection over Suzuki et al. is set forth below.
4. The previous indication of allowable subject matter is withdrawn.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-13, 16, 18, 19, 22, 23, and 25-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (WO 2004/020372 A1). Suzuki et al. disclose organic electroluminescent devices comprising an anode, a cathode and one or more layers containing a compound between the electrodes (see claim 6). The at least one luminescent layer comprises a host fluorene compound and a compound according to formula [XV] wherein Ar₂₅ and Ar₂₆ may be a substituted or unsubstituted aromatic group or fused polycyclic aromatic group. The

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variable “t” in the formula may be 1 (see claim 13, pages 81-82). Suzuki et al. clearly discloses compounds according to present claim 1, formula 1, disposed in a luminescent layer of an organic electroluminescent device (see abstract, claims 6 and 13). Suzuki et al. fails to exemplify or to specify the substituents set forth in claims 2-6 and 8-12. It would have been obvious to one of ordinary skill in the art at the time of the invention to have made compounds according to claims 2-6 and 8-12, because Suzuki et al. clearly teaches the Ar substituents of formula XV may be the same or different and include substituted or unsubstituted aromatic groups and fused polycyclic aromatic groups which encompass the specific substituents of claims 2-6 and 8-12. Suzuki et al. fails to exemplify a device comprising the fluorene host and the formula XV compound in a layer in specific amounts. Suzuki et al. does in show example 23 (see page 56) that arylamine is added to the fluorene compound at a ratio of 100:1 fluorene compound to arylamine compound. It would have been obvious to one of ordinary skill in the art at the time of the invention to have also incorporated formula XV in the same ratio to fluorene compound in a fluorescent layer as the arylamine of example 23, because Suzuki et al. generally teaches formula XV is a similar additive to the luminescent layer as the arylamine compounds.

With regard to the third material which emits light in claim 1, Suzuki et al. teaches “The luminescent device with this structure is advantageous when the luminescent material used herein has a hole-transporting ability, an electron-transporting ability, and a luminescence property in itself or when plural compounds having the respective characteristics are used as mixed” (see page 32, lines 10-16). Also, Suzuki et al. teaches “compounds having different luminous wavelengths can be used. Therefore, a variety of luminescence hues can be achieved” (see page 34, lines 1-3). This teaching states the device may be formed to emit a desired color

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(with regard to claims 7 and 29). It would have been obvious to one of ordinary skill in the art at the time of the invention to have used any of the materials taught by Suzuki et al. in combination in the luminescent layer, because Suzuki et al. clearly teaches a mixture of these materials may be used in combination. As luminescent material, Suzuki et al. teaches green emitting Coumarin6 per claims 7, 18, 22, 23 and 32 (see page 38). With regard to an anthracene derivative host per claim 13, Suzuki et al. teaches an anthracene derivative as luminescent layer matrix material (see page 39, second compound of second row). With regard to claim 19, Suzuki et al. discloses quinacridone that may be used as luminescent material (see page 38).

7. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (WO 2004/020372 A1) in view of Aziz et al. (US 2004/0018380). Suzuki et al. teaches luminescent layer materials such as anthracene derivatives (see pages 37 and 39), but fails to teach specifically an anthracene derivative according to claims 14 and 15. Aziz et al. teaches anthracene derivatives according to claims 14 and 15 as material for a luminescent layer (see par. 76, particularly formulas I(A)(1) (page 5) and I(A)(6) (page 6)). It would have been obvious to one of ordinary skill in the art at the time of the invention to have used an anthracene derivative selected from those taught by Aziz et al. for the Suzuki et al. device, because Suzuki et al. teaches such compounds suitable for a luminescent layer can be used in mixture in the luminescent layer.

8. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (WO 2004/020372 A1) in view of Shi et al. (US 5,593,788). Suzuki et al. teaches luminescent materials such as a quinacridone derivative (see page 38), but fails to teach specifically a quinacridone derivative according to claims 20 and 21. Shi et al. teaches

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quinacridone derivatives according to the claim 20 formula as equivalent to the quinacridone compounds taught by Suzuki et al. (see abstract). It would have been obvious to one of ordinary skill in the art at the time of the invention to have used a quinacridone derivative selected from those taught by Shi et al. for the Suzuki et al. device, because Shi et al. teaches the quinacridone derivatives as equivalent to the quinacridone derivative which is set forth by Suzuki et al.

9. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (WO 2004/020372 A1) in view of Chen et al. (US 6,770,385). Suzuki et al. teaches luminescent materials such as Coumarin6, but fails to teach specifically a coumarin derivative according to claim 24. Chen et al. teaches coumarin derivatives according to the claim 24 formula as equivalent to Coumarin6 (see col. 7-8, especially table in col. 8). It would have been obvious to one of ordinary skill in the art at the time of the invention to have used a coumarin derivative selected from those taught by Chen et al. for the Suzuki et al. device, because Chen et al. teaches the coumarin derivatives as equivalent to Coumarin6 which is set forth by Suzuki et al.

Response to Arguments

10. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground of rejection.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dawn Garrett whose telephone number is (571)272-1523. The examiner can normally be reached Monday through Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached at (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Dawn Garrett
Primary Examiner
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